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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/056,656	04/07/1998	CURTIS PRIEM	NV30	5595

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EXAMINER

CHAUHAN, ULKA J

ART UNIT

PAPER NUMBER

2676

DATE MAILED: 07/02/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

12

Office Action Summary

Application No.

09/056,656

Applicant(s)

PRIEM ET AL. 

Examiner

Ulka J. Chauhan

Art Unit

2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 100, 104-108 and 111 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 100 104-108 is/are allowed.
- 6) ☒ Claim(s) 111 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/23/03 has been entered.

Response to Amendment

2. Claims 1-99, 101-103, 109-110, and 112 are cancelled; claims 100, 104-108, and 111 are pending.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claim 111 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,130,680 to Cox et al.**

5. As per claim 111, Cox teaches a system for multi-level demand caching of texture images in which the CPU 210 keeps track of the different types of textures available to an application and issues a command to a graphics accelerator (GA) 240 to map a specific one of these textures onto a corresponding primitive [col. 3 lines 43-53]. Cox discloses that upon receiving this

Art Unit: 2676

command from the CPU 210, the GA 240 engages in a rendering process whereby it retrieves specific texels from a stored texture in memory 230 and subsequently maps such texels on corresponding pixels of the primitive [col. 3 lines 54-59]. The majority of texture required by the application running on the CPU 210 is stored in a main memory 230 hereinafter referred to as L3 memory (**“storing a plurality of texture maps in a main memory”**), and the GA 240 retrieves these stored textures from the L3 memory 230 (**“transferring a subset of said plurality of texture maps from the main memory to a local memory”**) [col. 3 line 64-col. 4 line 8]. To increase the efficiency of texture retrieval from the L3 memory 230, the GA 240 has the ability to load portions of a particular texture into smaller-capacity memories that provide speedier access by the GA 240 including an L1 cache 250 that is resident on the GA 240 (**“caching the texels”**) and an L2 cache 260 implemented as an external synchronous dynamic random access memory (**“local memory of a graphics accelerator”** and **“accessing texels from ...the local memory”**), such as RAM-bus DRAM (RDRAM); however, it will be appreciated that the L2 cache 260 could be embodied as an embedded DRAM, on-chip static RAM, external static RAM, etc. without departing from the spirit and scope of the invention [col. 4 lines 9-27]. And Cox discloses a table 400, residing on the GA 240 (or, possibly in external memory), used to obtain the actual memory address of a particular L2 texture block 320 within the L2 cache 260 [col. 6 lines 50-62].

Allowable Subject Matter

6. Claims 100 and 104-108 are allowed.
7. The following is a statement of reasons for the indication of allowable subject matter:
the cited prior art does not disclose or render obvious the combination of elements recited in

Art Unit: 2676

these claims, including: providing a cache controller within a graphics accelerator having two sets of flags, each having a bit position for each of the cache lines in the cache memory, where the cache controller sets the bit positions in the first set of flags for cache lines that will be used to render a first triangle and sets the bit positions in the second set of flags for cache lines that will be used to render a second triangle, and the cache controller only replaces texels in the cache lines for which neither the bits positions associated with the first and the second sets of flags has been set as per claim 100; a graphics accelerator having a texture cache system operating in a pre-fetch mode, pre-fetching a set of texels if it is determined that the set of texels can fit into one half of the texture cache memory as per claim 104; and defining a texture over a first triangle using the texture values from a cache memory, determining if a second plurality of texture values can fit into one half of the same cache, if so, caching the second plurality of texture values in the cache, and generating a second plurality of pixels using the first cached texels and the second cached texels as per claim 105. .

Response to Arguments

8. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Ulka Chauhan** whose telephone number is **(703) 305-9651**. The examiner can normally be reached Mon.-Fri. from 9:00 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Matthew Bella**, can be reached at **(703) 308-6829**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Art Unit: 2676

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor (Receptionist).

10. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 305-4700.



Ulka J. Chauhan
Primary Examiner
Art Unit 2676

ujc
June 30, 2003